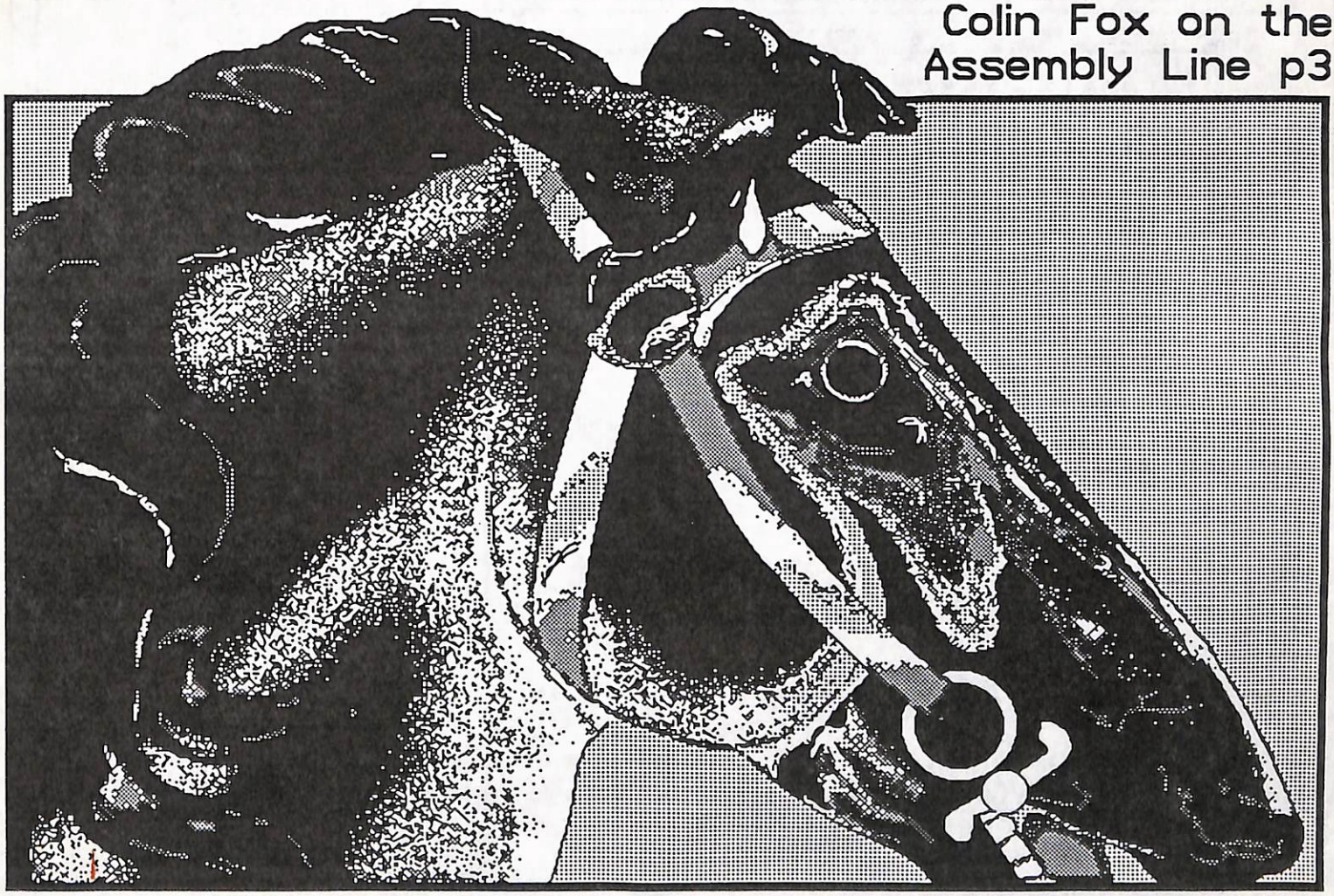
Amiga News, Reviews and More

The PaNorAmA View

SEPTEMBER 1987 $1 - FREE TO MEMBERS

68K WINDOW

Colin Fox on the Assembly Line p3



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The opinions expressed in The View are those of the respective authors.

About the cover

This month's cover was originally a four colour DPaint hi-res pic.
No name Clet me know!D

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BUT DOES IT DO WINDOWS?

Assembly Line

Colin Fox (c)1987

Assembly language programming on the Amiga can be quite simple, but it just so happens that the documentation is rather lacking. Most of the manuals seem to be written under the assumption that you already know what you're doing. Now that I understand things more, it's nice not to have to wade through all of that beginner stuff, but it was tough to learn. What I'd like to do here is give an introduction to using INTUITION, the operating system/user interface.

By the way, if you decide to program in Assembly language, you really should get a 68000 manual. The one I use is "68000 Assembly Language Programming, by Gerry Kane, Doug Hawkins & Lance Leventhal". There are others that are good. You should also get as many of the Amiga manuals that you can, but that is a good idea no matter what language you program in. If you only get one manual, I would suggest the Intuition manual. Then the RKM if you can. You also REALLY should have the DOS manual. That gives both DOS information and has the Assembly manual included.

Ok, let's begin. This program is a simple window opening program. It opens a library (more on that later), opens a window, waits for you to click the close gadget, then closes the window, closes the library and exits. Any line that begins with * is a comment. The text in the fourth column (counting from left to right) is also comments. These aren't important to the program, they just make it easier for people to understand what is going on.

At the end of this listing is a program break-down, and another listing in C of the same thing. The C listing is by Bruce Dawson.

Oh, by the way, the difference in the sizes of the final code is:
Assembler version 416 bytes
C version 6204 bytes (15 times larger!!!)

```
*****************************************************************************
Main
        MOVE.L  _SysBase,A6             Library pointer
        MOVE.L  UserPnt,A0              UserPort pointer
        SYS     WaitPort                wait for user to do something

* The _SysBase library is still in A6

        MOVE.L  UserPnt,A0              UserPort pointer
        SYS     GetMsg                  Get a message

        MOVE.L  D0,A1
        SYS     ReplyMsg                all messages must be REPLY'd to

* Normally, there would be a check to see what kind of message it was,
* but since the only message we are allowing is CLOSEWINDOW, then that
* is the only message we'll get. So, we'll skip the check in this
* example.

*****************************************************************************
EndWindow
        MOVE.L  WindowPnt,A0            Pointer to the System's Window Struct
        MOVE.L  IntuitionBase,A6
        SYS     CloseWindow
EndIntuit
        MOVE.L  IntuitionBase,A1        The library we opened
        MOVE.L  _SysBase,A6
        SYS     CloseLibrary
ByeBye
        MOVEQ   #0,D0                   For a clean return code
        RTS
```

```
*****************************************************************************

        SECTION constants,DATA

myIDCMP     EQU  CLOSEWINDOW
myFlags     EQU  ACTIVATE!WINDOWCLOSE!WINDOWSIZING!WINDOWDEPTH!WINDOWDRAG

Title       DC.B    'Window Title',0          The name of the window
IntuitName  DC.B    'intuition.library',0

      CNOP  0,4     this is for safety, to align NewWindow properly

NewWindow
              DC.W    0                   Left Edge
              DC.W    0                   Top Edge
              DC.W    150                 Width
              DC.W    150                 Height
              DC.B    3                   Detail Pen
              DC.B    1                   Block Pen
              DC.L    myIDCMP             IDCMP flags
              DC.L    myFlags             Window flags
              DC.L    0                   First gadget in list
              DC.L    0                   Check mark
              DC.L    Title               Window title
              DC.L    0                   Screen (0 = workbench)
              DC.L    0                   Custom Bitmap
              DC.W    40                  Minimum width
              DC.W    100                 Minimum height
              DC.W    320                 Maximum width
              DC.W    200                 Maximum height
              DC.W    WBENCHSCREEN        Type of screen

*****************************************************************************

        SECTION variables,BSS

IntuitionBase   DS.L    1

WindowPnt       DS.L    1
UserPnt         DS.L    1

                END
*****************************************************************************
```

The program is divided into 4 columns. Everything pressed up against the left side is what is a LABEL. Then, the next bit of text, no matter how far from the left, is the instruction. Then after that, the text is the OPERAND, or what the instruction is supposed to do. Then the last column is the comment field.

What is a Library? A library is basically a table of pointers to the system routines. There are several libraries; Intutition, Exec, Graphics, DOS, Icon, Clist, Layers, Exec_support, and Mathffp. Every function in the Kernal is listed under a library. For instance, OpenWindow is under Intuition, and Draw is under Graphics. You can find out which library contains the function you want to use by turning to page A-5 in the RKM where you will find a list of functions and their libraries.

Now for a program break-down. The first line says XREF _AbsExecBase. The _AbsExecBase is the only library you don't have to open. It is the same as _SysBase, and is the Executive library. It is always open. The XREF tells the assembler that you aren't defining the value in this program, you are getting the value from somewhere else. In this case, amiga.lib or lvo.lib contains the value for _AbsExecBase.

The next bunch of things are EQU directives. These are exactly the same as the "=" sign. They just EQUate values to labels.

The next thing is a MACRO definition. Normally, for every routine that you use, such as OpenLibrary or OpenWindow, you have to XREF it, so the system can later on put the value in. You also have to enter the system command as "JSR _LVOOpenWindow(A6)". Well, rather than doing a bunch of redundant typing, we use a macro that automatically XREF's your function, and types the JSR _LVOxxxx(A6) for you. So now, instead of saying XREF _LVOOpenWindow and JSR _LVOOpenWindow(A6), you simply say SYS OpenWindow. Much easier, no?

Now we come to the opening code. First, the Intuition library is opened, and the value of the library is returned to you in D0. You then save it for later reference. Then, using that value, we open the window. The value returned after an OpenWindow is the pointer to the system's Window structure. The NewWindow structure in the program and the system's Window structure are different. The system uses your structure to define the window, and then it has it's own for maintaining the window. The UserPort is a place for Intuition to send

messages to us. It is automatically assigned when you open a window. If you don't want any input from the user, you can ignore the UserPort. But, since we want a CLOSEWINDOW message, we use the UserPort.

Then, in the Main part of the program, we wait for a message to come to the port. While waiting, the program is asleep and not using any processor time. This is important for multitasking, for it allows other programs running at the time to get more use out of the CPU (Central Processing Unit, or in other words, the 68000).

When a message comes, we know it's a CLOSEWINDOW message, because that is the only message we've allowed to come through. So we close the window and close the library.

The two SECTIONs at the end of the program define variables and constants. The difference between the two is that constants start out with some value, and variables will have a value put into them sometime.

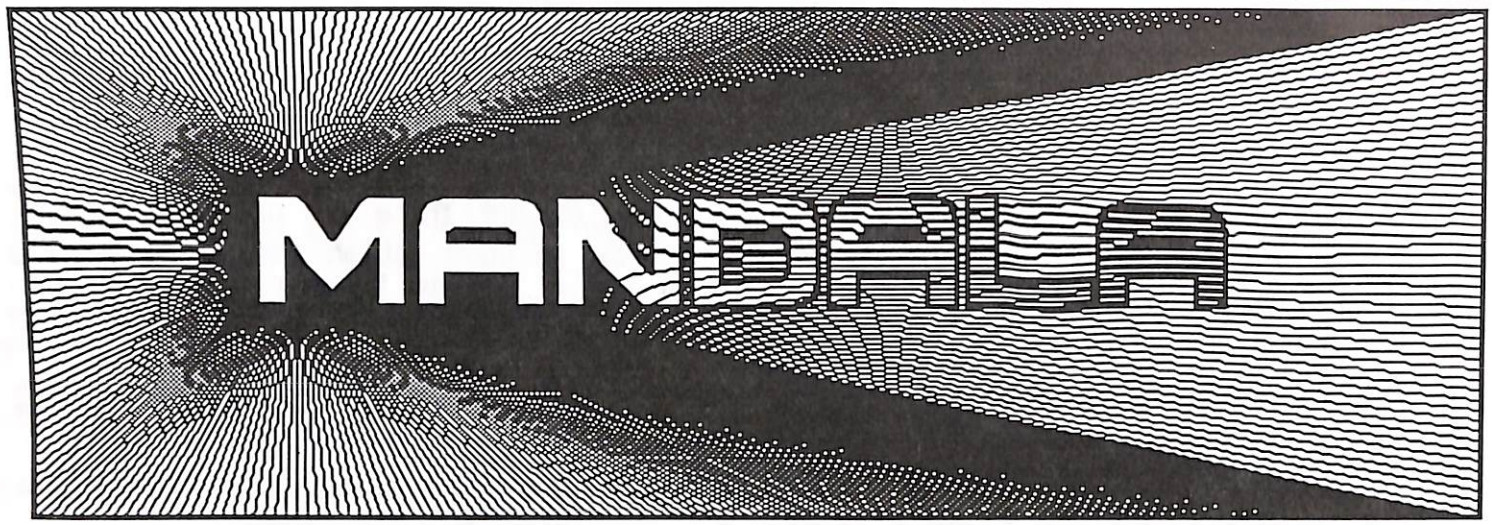
I realize that there may be things still not understood about the program, but the best thing is to play with the program and try to answer the questions yourself. If you don't have any manuals, then that is going to be a bit difficult, but there will be more example programs, so you'll get an idea as to what is going on. If you do, however, have questions that you can't solve, don't be afraid to ask. That's what we're here for!

Incidentally, if you can afford it, buy MetaScope. When debugging Assembly language code, it makes things much easier.

In the next installment, we will be doing some stuff with gadgets.

Copyright (C) 1987 Colin Fox.

```
*****************************************************************************
*****  This is the equivalent program in C code.  *****
*****************************************************************************

#include      "intuition/intuition.h"

struct  IntuitionBase                 *IntuitionBase;
struct  Window                        *WindowPnt;
struct  MsgPort                       *UserPnt;

#define myIDCMP CLOSEWINDOW
#define myFLAGS ACTIVATE|WINDOWCLOSE|WINDOWSIZING|WINDOWDEPTH|WINDOWDRAG

struct NewWindow NewWindow =
      {
      0,0,                            /* LeftEdge, TopEdge */
      150,150,                        /* Width, Height */
      3,1,                            /* DetailPen, BlockPen */
      myIDCMP,                        /* IDCMPFlags */
      myFLAGS,                        /* Flags */
      NULL,                           /* FirstGadget */
      NULL,                           /* CheckMark */
      "Window Title",                 /* Title */
      NULL,                           /* Screen */
      NULL,                           /* BitMap */
      40,100,                         /* MinWidth, MinHeight */
      320,200,                        /* MaxWidth, MaxHeight */
      WBENCHSCREEN                    /* Type */
      };

VOID main()
      {
                  /* OpenIntuition */
         if (!(IntuitionBase =
           (struct IntuitionBase *)OpenLibrary("intuition.library",0L)))
            goto ByeBye;

                  /* OpenWindow */
      if (!(WindowPnt = (struct Window *)OpenWindow(&NewWindow)))
            goto EndIntuit;
      UserPnt = WindowPnt->UserPnt;


                  /* Main */
      WaitPort(UserPnt);
      ReplyMsg(GetMsg(UserPnt));


EndWindow:
      CloseWindow(WindowPnt);

EndIntuit:
      CloseLibrary(IntuitionBase);
ByeBye:
      }
```



Review

Colin Plumb

Here's a real interesting application for the Amy!
#! rnews 6680
Path:van-bc!ubc-vision!alberta!
mnetor!utzoo!utgpu!water!watnot!ccplumb
From: ccplumb@watnot.UUCP
Newsgroups: comp.sys.amiga
Subject: Very Vivid's *Mandala*
Summary: Mindf**k (excuse me, but nothing less emphatic can do it justice)
Keywords: amazing graphics system
Message-ID: <12635@watnot.UUCP>
Date: 19 Mar 87 06:46:13 GMT
Reply-To: ccplumb@watnot.UUCP (Colin Plumb)
Distribution: comp
Organization: U. of Waterloo, Ontario
Lines: 115

Excuse me if the following posting is a trifle incoherent. Mandala is so amazing that I feel obligated to lose my head and rave.
Very Vivid is a Toronto company that (so far) is composed entirely of University of Waterloo graduates. Hooray for our side.

They've come up with this system called Mandala that's most interesting. Basically, it takes a real-time digitized image, transforms it into a silhouette, and displays it on the screen.

Getting more advanced, there's a background. The image is redrawn 10 to 20 times a second, depending on the complexity of the background (it can be animated, do colour rotation, etc.)

Even more advanced, there are gadgets (to use Amiga terminology) on the screen. Your silhouette can do anything with these gadgets that a mouse can. They had the computer hooked up to a MIDI bus, and a person's movements were controlling the instruments. It's kinda wierd to be drumming on thin air, yet have it sound as if you're hitting something. They also had a harp, and a Mayan temple where you played the hieroglyphics. They also had a Toronto skyline with the tops of the tallest buildings acting as drums - freaky!

They had a public demo running where you'd touch gadgets on the screen to change the instruments used, and then you could go and play them in a number of ways, by touching other gadgets that would shift the screen to a different image... like the aforementioned harp, a room made of xylophone tubes, or an outdoor scene with will o' the wisp balls that sang. You could also go into a body-paint program where multiple images of you appeared, in different, cycling colours, and a program where balls dropped from above, and you could bat them away, to appropriate sound effects. One of the most interesting was the birds program, where two birds would fly onto the screen, and if they hit you, they'd transform into balls on your hands (actually, the outer extremities of your body, so elbows and other funny things were possible). You could shake them off, in which case they'd chirp and fly away, only to come back in a few seconds.

The visual effect is absolutely amazing. A verbal description is less than one thousandth as interesting as seeing it for yourself, but I have to try. The software can handle essentially any sort of interaction a silhouette can have with its environment.

Needless to say, it runs on a stock Amiga. (You're all supposed to gasp; that was supposed to be a bombshell.)

Well, actually, it does need a real-time frame grabber board, and a bit of expansion memory if you really want it to show off, but it could probably make do with 512K. If you want, you can fiddle around with GenLock so the

silhouette is actually your image. (Not with the current GenLock, but there's supposed to be one in the works that will let you replace arbitrary colours with video, not just one.)

What really impresses me is that this piece of work, which blows the transformer so far away I can't see it anymore, *is well behaved*. It multitasks. It uses all the proper techniques. They don't need to go to assembler; it's written in C. (Aztec, if you must know.) Actually, I saw them using KS 1.1, so they might have problems there, but the company is basically three people... a marketing guy, a dancer who comes up with all the ideas (like the original one), and a software guru, so I can excuse that.

I don't know its innermost secrets of operation, but it makes the background, grabs an image and digitizes a silhouette, and works out the foreground and all the gadget collisions and adds those effects. Then it swaps the scene it's just made into place (double-buffering) and starts over again. As I said, it gets 10 to 20 frames per second, depending on the complexity of the scene. The collisions are all done in software; no sprites are used.

The gadgets were connected to the MIDI port just because the Amiga sound chips can't quite match a DX-7. There's no fundamental reason why it needs to be done that way.

Currently, Very Vivid is doing all sorts of interesting things. They're talking with Commodore. (Message to new ad agency: only an imbecile wouldn't use their work in an ad. It is, without the slightest doubt, both *the best* and *the most impressive* piece of work I've even heard rumours about for the Amiga. And it's very, very real.) They're talking with the David Letterman people. (Still *highly* tentative, but timeframe is on the order of weeks.) They're talking with some biggie rock music types. (The only package they're currently selling is a big one, with *all* the hardware - $40,000.00 (Canadian, of course). This is not, of course, for mere mortals, but for MuchMusic and Croeseus-rich types. It includes a hell of a lot of support. One does not, it was explained to me, leave David Bowie on stage for 10 minutes while a glitch is tracked down.)

Another area of interest is video games. The date 'christmas, '87' was mentioned to me, but I don't have *that* much faith in them. It would be interesting to find a 'Karate Champ'-like game where you actually had to punch, not just move joysticks.

A version for mortal types is in the works. Very Vivid is putting their own, one-bit-plane video board through the FCC (they're developing on someone else's 5-plane one), and they hope to get the current cost of $1200 per board down to $300 or so. (Theirs includes a left-right flipper switch, so looking at the screen is like looking at a mirror. With current hardware, it's the other way around, which can be a bit confusing.) Software would also be $300, but that's highly variable. They want to let lots of people at it.

In closing: watch out for these people! They're doing really amazing, revolutionary stuff. Great things are afoot. (BTW, they're looking for more people. If you fit into the 'genius' category, you can send them a resume. I don't know their address, but directory assistance can get you in touch with them. The same if you want to do something commercial.)

Disclaimer: I have no connection with Very Vivid, although I'd like to.
Colin Plumb (watmath!watnot!ccplumb)
Zippy says: bleakness.... desolation.... plastic forks

PANORAMA

PaNorAmA is The Pacific Northwest Amiga Association, the largest AMIGA user group in Western Canada.

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COPY Alternative View

Tom Gowdyk

The next command in the series to discuss is the COPY command, this is different from the DISKCOPY command which we will cover later on. COPY lets you copy individual files or directories over to another disk, or for that matter even to the same disk. Copy will even let you change the name of your file on the fly. The basic syntax of the copy command is as follows, (optional commands are enclosed in square brackets):

COPY [FROM 'fromname'] [TO 'toname'] [ALL] [QUIET]

FROM 'fromname' - specifies the filename or directory of the file you want to copy. If you do specify a directory then all of the files in that directory are automatically copied over to the new destination. If you are copying individual files you can use pattern matching or wildcards to copy every filename that matches. These are options we will cover in a later issue.

TO 'toname' - tells the Amiga where to send the copy of the file and what to name it. TO is an optional keyword as is FROM and you could quite correctly abbreviate your copy statement as follows:

COPY filename df1:

This would cause the Amiga to look on your internal drive and send "filename" to drive DF1: Another method of copying it would be to copy the file to the same drive:

COPY 'mydirectory/filename' df0:

This would take filename out of the directory 'mydirectory' and copy it into the main or 'root' directory of the disk. This will not work with a directory though unless you specify a different name for the finishing directory:

COPY mydirectory TO df0:yourdirectory

In order for that to work though you must have a directory on the disk already named 'yourdirectory', I know, another sneaky command, yes I will get to it as well.

Finally are the optional keywords ALL and QUIET. ALL will cause all of the files in the specified directory to be copied, while QUIET will prevent their being listed on screen as they are copied. This will speed things up a little for you. Below are some examples of the ways you can use the COPY command, those marked with asterisks must be typed exactly as shown (except of course for the upper case) or they will not work:

COPY FROM 'myfile1' TO 'myfile2'

COPY TO 'myfile2' FROM 'myfile1' **

COPY 'myfile'1 'myfile2'

COPY DF0: DF1: (copies files from drive 0 to 1)

COPY DF1: DF0: ALL QUIET

DISKCOPY

Enough of the COPY command already and on to DISKCOPY. This command is used to make backups of all your unprotected disks. The proper syntax to use it is as follows:

DISKCOPY DF0: [TO] DF1:

This will make a backup of the disk in drive 0 onto the disk in drive 1. DISKCOPY can also be used by single drive systems just by typing:

DISKCOPY DF0: [TO] DF0:

The Amiga, being the smart machine that it is will tell you when to put which disk in the drive and all you have to do is follow instructions. You can also name your backup disk at the same time just by typing the command the following way:

DISKCOPY DF0: [TO] DF1: NAME 'mydisk'

You must type in the keyword NAME followed by a space and the name you wish to use.

FORMAT

One final command I will discuss in this installment is the FORMAT command. This command is used to prepare a new blank disk to make it ready to receive files, or it can be used to erase all old information from a disk to be reused. It is not necessary to FORMAT a disk first when using the DISKCOPY command as it will automatically format the disk as it copies files. The proper syntax is as follows:

FORMAT DRIVE DF1: NAME "Blank Disk" [NOICONS]

You must specify the keyword DRIVE and the drive to be used to do the formatting or the Amiga will not recognize your command. You must also use the keyword NAME and give a name to the disk. Make sure to leave a blank space after the colon and a space after NAME. If the diskname is to include spaces then it must be enclosed in quotes as shown. The optional keyword NOICONS requires no argument. If included the newly formatted disk will have no trashcan nor trashcan icon included on the disk.

Well that's enough for this month, and next month we'll get into using wildcards, which will make using some of the commands somewhat easier. So for now, see you at the next PaNorAmA meeting.

Path:van-bc!ubc-vision!alberta! mentor!uunet!husc6!
seismo!rochester!udel!burdvax!psuvax1!vu-vlsi!cheung
From: cheung@vu-vlsi.UUCP (Wilson Cheung)
Newsgroups: comp.sys.amiga
Subject: Diga! review
Message-ID: <1052@vu-vlsi.UUCP>
Date: 12 Aug 87 04:31:14 GMT
Organization: Villanova Univ. EE Dept.
Lines: 197

DIGA! Review

Wilson Cheung

With all the hype about Aegis Diga! I was swayed from upgrading my Online! 1.0 to 2.0 towards purchasing Diga! 1.0. Overall I think I made the correct decision. Aegis Diga! is not only packed with almost every feature a hacker could ever desire, but is well built and well thought out ergonomically. By ergonomics I mean something that is first of all solidly coded with little or no bugs. Secondly it is fast and responsive so that I can start something at the click of my mouse or a push of a button, and stop it abruptly (even abusively) just as easily. And finally it means flexibility offering many redundant ways of changing settings to satisfy my varying moods and a growing level of expertise.

The Diga! program weighs in at a fat 163K. Take into consideration that it needs additional memory for its screen, a review buffer and its terminal emulation modules and that starts to push it a bit over 300K. It is a program that you can't run with 256K and will find near impossible to multi-task on a 512K Amiga. In fact the release disk is set up so that Diga! takes over the whole machine.

Only after some experimentation did I find out that one must have a different program or window up prior to running Diga! in order to multi-task.

EMULATION

Diga! currently supports about five different terminal emulations including a Tektronix 4010, a VT100, and even a talking terminal. The Tektronix terminal is one of Diga!'s premier features. It utilizes the Amiga's maximum overscan, interlaced resolution and even allows the user to continually zoom in on any Tektronix graphics. With a Tektronix picture loaded in on a 700 x 440 screen my eyes swore I was looking at a work station; the display was crisp with no visible flickering. Aegis achieves low flicker by choosing low contrast colors. This, while fine for graphics, was unacceptable for text. To top it off, any Tektronix display can be converted into an Aegis Draw file for further modification and eventual plotting. The talking terminal is an undocumented feature included apparently at the last minute. It is mostly a curiosity since it has problems keeping up with text even at 300 baud and is therefore unintelligible.

I get the impression that Aegis spent so much time on the Tektronix emulation that they forgot about the more fundamental emulation of the VT100. Diga!'s VT100 emulation failed to draw the screen correctly when logged into the screen editor of my University's VAX. What's worse is that they don't tell you how the VT100's keypad and function keys are mapped onto the Amiga. Fortunately most of the keypad keys are laid out on the Amiga as you would expect them to be. However, the function keys were not mapped onto the Amiga's function keys as expected.

After calling Aegis customer service I found out that they were squashed into the Amiga keypad by using the CTRL key. Why? I don't know. Currently I am still using Dave Wecker's VT100 emulator when I need to use the VAX screen editor.

Diga! also claims to support user created terminals which is pretty misleading, since it amounts to submitting a written request to Aegis to create the emulation for you.
There are usually two classes of software. One is usually packed with a lot of features but is fairly weak on user interfacing. The other is simply the inverse. Diga! attempts to do both. First of all it has 7 file transfer protocols consisting of Xmodem, Xmodem with CRC, Ymodem, Compuserve B, Kermit, ASCII, and Double Talk. Double talk is a full duplex protocol that allows simultaneous upload and download while chatting with the person on the other line; this feature while impressive only works with Diga! users on both end of the telephone line.

Again, in its file transfer protocols Aegis seems to have spent so much time on touted features such as Double Talk that they neglected to implement the most fundamental protocol of all, straight ASCII. While it does exist,m the ASCII transfer does not have any settings for character delays or end of line delays; it just sends the text at full speed without pauses. This usually overwhelms the computer on the other end which can't keep up. I also found a serious problem with its Kermit file transfer.

For some unknown reason I cannot send files successfully without having first downloaded a file. In addition turning off the modem or having the line drop unexpectedly while transferring files hangs up Diga! but leaves the rest of the Amiga system running normally.

Diga!, like most emulators has its own phone book. However, this phone book is much more complete, providing lines to enter a name, several lines for a description and an address, phone number, terminal configuration file, baud rate and a voice or data setting. One can therefore dial different services and be sure of the correct emulations and script files going with it.

If you are concerned about compatibility with a system which uses antiquated settings or the use of a non-Hayes compatible modem you needn't worry, Diga! will likely have what you require. In terms of communications and modem settings it is extremely thorough. It supports the 5 different parity settings one can encounter, which can be combined with a 7 or 8 bit word size and 1 or 2 stop bits for a total of 15 possible parity settings. If you require unusual settings of your RS232 port, Diga offers Xon/Xoff, 7-wire and 7-wire/X interfacing. If you should ever need high baud rates Diga! will accommodate you up to MIDI speeds. And finally if you have a smart modem that happens to be non-Hayes compatible Diga! provides a modem settings screen to allow it to be customized to ask your modem to turn on or off auto-answer mode, hangup, change speed, or switch to voice mode. It is also because of the ability to program the proper commands to be sent to your modem that Diga! is able to do one simple thing that has eluded every communications package I have ever used on an IBM as well as the Amiga, hang up the phone! Most packages do have a function for hanging up the modem but this never seems to work. This is because many emulators assume all modems will hang up by dropping the DTR line instead of sending a command such as the Hayes ATH command to hang it up explicitly.

FUNCTION KEYS

What else could you ask for. How about 50 programmable function keys and a remote mode. One gets 50 function keys by using F1 through F10 in combination with the ALT, CTRL, left and right Amiga keys. One drawback with the keys is that one can only use them to send strings to the host computer. It would have been nice to have been able to use them to make Diga! execute a script file. What really irks me is that they could have set up four of the keys namely F1 through F4 to emulate the VT100s function keys. Fortunately I was able to copy information from Dave Wecker's VT100 emulator to program the correct escape code sequences into these keys. Now I have 46 function keys which I can't use for much more than sending one line strings, any ideas? The manual suggests inane operations like using several of these keys in sequence to logon and send passwords to the host computer. I say inane since one will usually have the Diga! logon automatically by way of script files. To be fair some programs don't even have programmable function keys.

SCRIPT FILES

Speaking of script files, Diga! does have a very complete script language. In addition to the common "wait for", "send", and "if then" type of commands it even has case-like structures, the ability to transfer files through any protocol, and the ability send Amigados CLI commands.

The remote mode is a feature that will more and more be a welcome sight for the future as computers become more widespread. It actually converts Diga! into a crude BBS allowing you and others to logon to your Amiga in order to leave messages, and transfer files. Of course for my own peace of mind I can impose two levels of password protection. One for the general user and one for you to allow operations such as erasing files. I can also select what disks they can get access to as well as to the maximum online time.

FEATURES

What really makes Diga! worthwhile and unique is its responsiveness and well planned out ergonomic environment.

•It does terminal emulation on its own screen rather than a window. This allows the user to adjust the number of columns from 80 to 136 characters (136 characters is very hard to

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read) and lines from 23 to 50 by using the interlaced and overscan display features of the Amiga.

•All settings are accessible in more than one way. The beginner can simply search through the menu bars to change a setting. However, often one would like to change several settings at once or find out the current status of Diga! For this reason settings are also logically grouped together into a cluster of pop up screens. Quick menus are separate pop up screens filled with buttons and entry lines. With one of these up one can, for example, find out the current parity, change it with a click, alter the screen width and utilize overscan mode in a matter of seconds. And many of these screens have features that overlap appropriately with the features of other screens. This is the case with Diga!'s quick menu which is just one big pop up screen with nearly everything on it. And finally for the impatient advanced user there are provided key stroke equivalents to nearly every single setting, function, and command of Diga!

•Another of Diga!'s conveniences is a review buffer which allows the user to look back over text that has scrolled off the screen. The buffer defaults to a loop mode which records only the most recent 16K of text. Depending on the amount of memory available one can adjust the size of the buffer from 4K to 512K. Of course, a buffer is nothing new. What is new is the ability to type into the terminal and look at the review buffer simultaneously; on other telecommunications software its either look at the buffer or type into the terminal not both.

•Another unique feature of the buffer is its support of the clipboard. I often use this to cut critical information out of the buffer and paste it into an article on my Scribble! word processor. Of course one can also print out the contents of the review buffer. Even in this basic feature Diga! shines by doing its printing in the background instead of tying up precious online time. The interface to the printer is absolutely hitch free. When you cancel the print out it stops immediately and never forgets to free-up the printer so that other programs can use it.

DOCUMENTATION

One would think that so many features would have plenty of documentation to go along with it. This is not the case. The manual although well written is missing a lot of critical information. For example, they don't mention that the stack setting has to be raised to 10000 to ensure Diga! doesn't crash the system. Additionally one must also delete the file called cycles. This is an IFF file that provides a pretty picture to look at while Diga! loads in; it apparently causes problems when the user doesn't boot up from the Diga! disk. To give the extent of the under documentation, Aegis found the urge to post just over 7 pages of text on a BBS on material that should have been put on the manual (single-spaced and in elite pitch)--that is quite an addendum. Probably the most important thing the manual is missing is a phone number. I had to go paging through some old magazines to find out Aegis's phone number and that only gave me the non-toll free number! For those who don't like being placed on hold when calling long distance the toll free number is: 1-800-345-9871.

IN CONCLUSION

Overall Diga! is well built and readily satisfies the impatient beginner as well as the demanding veteran user. It is simply a good example of well planned and organized programming. On the other end it is also an example of poor quality control. It makes an error that always seems to strike the ambitious, forgetting the fundamentals. Although it did not meet my needs for a good VT100 emulator it is still used as my primary telecommunications package; it simply has too many conveniences and features that I can't do without. One note, Aegis is already busy on a Diga! 2.0 which should clear up the few faults Diga! does have; it will of course be offered free to all registered Diga! 1.0 owners.

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Exec Notes

Allen MacKinnon

Minutes for Sept. 8, 1987 Meeting attended by:

Dave Allen	Jeff Lydiatt	Nick Murphy
Brent Brown	Allen MacKinnon	Paul Ruitermen
Tom Gowdyk	Anson Mah	Rick Striefel

1. Read and accepted the minutes of the last meeting.
2. Old Business - postponed until new year
3. Treasurer's Report - no report available
- approx. $4000 in treasury
- approx. $1000 in receivables
4. Library Report - library now includes all Fish disk upto #90
- Jeff Lydiatt plans to not seek re-election as Librarian for the new year.
5. External Affairs - decided not to attend Commodore Show at Disneyland Hotel, Anahiem, California.
- cost deemed to outweigh benefits
- Anson Mah to spend upto $20 in long distance phone charges to try and locate rumoured 68020 piggyback board available in Germany for $35US.
6. The "View" Report
- Nick Murphy to step down as editor
- Joel Murray to run for as editor
- Tom Gowdyk will run for layout editor
7. Guru Blessings - Guru on vacation, no blessing
8. Reviewers Committee - no report available as usual
- Office of Reviewers and Beta Testers to be abolished
9. Election Fever - the election of officers to manage the club affairs for the coming new year is to take place during the Annual General Meeting on October 14, 1987.
- positions to be filled are:

President	Guru
Vice President	Special Events Director
Historian	View Editor
Treasurer	View Layout Editor
Membership Director	View Business Manager
Librarian	View Ad Manager
Commercial Affairs Liason	12 Directors At Large
External Affairs Liason	

10. Miscellany
- use of BCIT room confirmed until Jan. 1988
- Brent Brown will try to arrange for a 26" monitor for front of meeting room.
- Paul Porter of the Vancouver PC User's Group wants PaNorAmA to supply some people and hardware to participate in a user group display at the Tracon Computer Show at BC from Commodore a specially priced hardware/software package which includes:

Amiga 500 Personal Computer
Amiga 501 1 meg expansion memory module
1080 colour monitor

Pagesetter Plus	CLIMate	Diga
WordPerfect	Deluxe Video	SuperBase
Maxiplan 500		

- this package costs approx $1650 which is less than half of the current list price.
- the club will use its pool of programmer's to write a BBS to run on the Amiga. The various stages of the software development will be used as tutorials for the programming SIG's.
12. Membership Report - approx. 260 members
- give free 1987-88 membership to Brent Brown for his help obtaining the use of BCIT meeting room and the new PaNorAmA BBS.
- give free 1987-88 membership to Nick Murphy for his outstanding work with the View.
- One year club membership are being sold at Amiga dealerships in connection with Commodore's current software promotion.
- memberships are now sold for a 12 month period. Each membership will expire on the last day of the month prior to it's one year anniversary.
- as an incentive to renew membership rates are now $20 for renewals $25 for non- renewals
- since all current memberships expire Oct. 14, 1987 a new membership form will be made up for the October meetings.

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